



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,340	05/10/2005	Albert Mehl	066489-0051	4960
5514 7590 03/18/2010 FITZPATRICK CELLA HARPER & SCINTO 1290 Avenue of the Americas NEW YORK, NY 10104-3800				
EXAMINER				
LEWIS, RALPH A				
ART UNIT		PAPER NUMBER		
3732				
MAIL DATE		DELIVERY MODE		
03/18/2010		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/534,340

Applicant(s)

MEHL, ALBERT

Examiner

Ralph A. Lewis

Art Unit

3732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 4, 5, 8-42, 44, 45 and 47-56 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 43, 46 and 57 is/are allowed.
- 6) ☒ Claim(s) 1, 6 and 7 is/are rejected.
- 7) ☒ Claim(s) 3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 5/10/05, 12/16/05, 2/3/2010
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Rejections based on Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doyle et al (US 5,879,158).

Doyle et al disclose at column 7, lines 42+ the use of a "statistically average tooth" 122 having a defined size, shape and contour with a defined central axis B-B. Doyle et al do not explicitly disclose how the electronic data for the "statistically average tooth" is generated, however, one of ordinary skill in the art would have readily understood that such "statistically average tooth" data must by definition be generated by measuring the size, shape, and contours of a plurality of teeth, adding the dimensions together and then dividing the dimensions by the number of measured teeth. In regard to step a) Doyle et al, do not explain how the size shape and contours of the plurality of teeth making up the data set for the "average tooth" are generated, however, they do disclose the use of laser scanning for generating the data of a tooth 120 to be compared to the statistically average tooth. To have used a laser scanning method to have generated the data for the size shape and contours of the plurality of teeth making up the data set for the average tooth in view of the Doyle et al teaching of such a method in generating data for a tooth to be compared to the average tooth would

have been obvious to one of ordinary skill in the art. In regard to step b) directed to "corresponding points and corresponding structures", In Doyle et al it is noted that such points in a digital laser scanning are inherently and automatically assigned in measuring the dimensions – e.g. a central point on the top edge of the first central incisor. In regard to step c) Doyle et al clearly indicates that a statistical average is used for the average tooth, computing the average by averaging the points along the edge - e.g. averaging the central points on the top edge of each scanned central incisor in order to determine the height of the average tooth would have been obvious, if not inherent. Finally, regarding step d) it is noted that Doyle et al makes such average data available to compare with other measured teeth such as 120.

Allowable Subject Matter

Claims 2, 3, 43, 46 and 57 are allowed. In regard to claims 2 and 57, "principal component analysis for generating principal components" is understood to be in reference to a conventional statistical procedure that transforms a number of possibly correlated variables into a smaller number of uncorrelated variables called principal components that account for most of the variance in the correlated variables. The prior art fails to teach the use of the specifically claimed method for creating an electronic data set of a tooth model as required in the steps of the present claims..

Response to Applicant's Arguments

In response to the present rejection, applicant reiterates the language of the rejection, reiterates the language of the claims and then concludes that the limitations of the claims are not met. Such a response is of little assistance to the examiner. The examiner requests that applicant explain why the cited art and interpretation of the art does not meet the limitations of the claim without merely repeating the language of the claims. Applicant suggests that the prior art does not include information about angles, directions and positions, but it is unclear to this examiner where such features are required in the claims.

Action Made Final

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R.Lewis
March 15, 2010

/Ralph A. Lewis/
Primary Examiner, Art Unit 3732